

Abstract of the Invention

A system and method is provided that facilitates the uniform development of a pattern on a photoresist material layer using a developer. The present invention accomplishes this end by considering the acid-base relationship of the photoresist material and developer and monitoring the development of water formed in the development process. Typically, photoresist material is purchased or manufactured with known concentrations of resin and photoacid generator. Therefore, by monitoring the development of water in the development process, the present invention can measure the acid consumption in the development process. The present invention can then utilize this information in optimizing the developer volume, developer concentration and developer time to improve the quality of the developed image pattern on the photoresist material layer.